TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	09/805,748
Filing Date	03/13/2001
First Named Inventor	Srinivas Gutta
Art Unit	2616
Examiner Name	James A. Fletcher
Attorney Docket Number	US 010064

Total Number of Pages in This Submission: 33

ENCLOSURES *(Check all that apply)*

- [✓] Fee Transmittal Form
  - [ ] Fee Attached
- [ ] Amendment/Reply
  - [ ] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
- [ ] Certified Copy of Priority Document(s)
- [ ] Reply to Missing Parts/ Incomplete Application
  - [ ] Reply to Missing Parts under 37 CFR 1.52 or 1.53

- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
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- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [✓] Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- [ ] Proprietary Information
- [ ] Status Letter
- [ ] Other Enclosure(s) (please Identify below):

Remarks

Enclosed is an Appeal Brief and filed in support of the Notice of Appeal filed October 20, 2005 and the required fee.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	LEIMBACH ASSOCIATES
Signature	*[signature]*
Printed name	James D. Leimbach
Date	December 20, 2005
Reg. No.	34,374

CERTIFICATE OF TRANSMISSION/MAILING

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Signature	*[signature]*	
Typed or printed name	James D. Leimbach	Date: December 20, 2005

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DEC 2 3 2005

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FEE TRANSMITTAL
For FY 2005

Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	500.00

Complete if Known

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METHOD OF PAYMENT (check all that apply)

☐ Check ☑ Credit Card ☐ Money Order ☐ None ☐ Other (please identify):_____

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For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 20 or HP =	_____ x	_____ =	_____

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
_____ - 3 or HP =	_____ x	_____ =	_____

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims

Fee ($)	Fee Paid ($)
_____	_____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
_____ - 100 =	_____ / 50 =	_____ (round up to a whole number) x	_____ =	_____

4. OTHER FEE(S)

Fees Paid ($)

Non-English Specification, $130 fee (no small entity discount)

Other (e.g., late filing surcharge): Fee for Appeal Brief _____ 500

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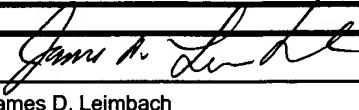
Signature	*[signature]*	Registration No. (Attorney/Agent) 34,374	Telephone (585) 381-9983
Name (Print/Type)	James D. Leimbach		Date 12/20/2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND

INTERFERENCES

In re Application of	Group Art Unit: 2616
Srinivas Gutta, et al.	Examiner: James A. Fletcher
DYNAMIC KEY FRAME GENERATION USAGE	I hereby certify that this correspondence is being deposited today with the United States Postal Services as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patent Commissioner for Patents P.O. Box 1450 Alexandria VA. 22313-1450
Serial No. 09/805,748	
Filed: March 13, 2001	Name: James D. Leimbach Registration No. 34,374 Date: Date: <u>December 20, 2005</u>
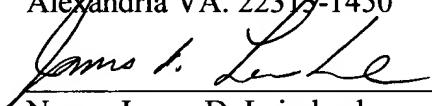
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Sir:

<u>APPEAL BRIEF UNDER 37 C.F.R. § 41.37</u>

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Real party in interest

The real party of interest is the Assignee who is U. S. Philips Corporation, a corporation existing under the laws of the State of Delaware (hereinafter Appellant).

Related appeals and interferences

There are no related appeals or interferences to the present application that are known to appellants, the appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 1-60 are drawn to a method and system for processing video frames. Claims 1-60 stand rejected and are the claims that are currently being appealed. A copy of appealed claims 1-60 is contained in Appendix I following this brief.

Status of the Amendments After Final

A response was filed subsequent to the final rejection to overcome the Examiner's rejection of claims 1-60 under 35 U.S.C. §102(b) and 35 U.S.C. §103(a). The Examiner in an Advisory Action dated September 8, 2005 indicated that the rejections of claims 1-60 under 35 U.S.C. §102(b) and 35 U.S.C. §103(a) stand.

Summary of the Claimed Subject Matter

The appealed claims define subject matter for a method and system for processing video frames. Video frames are received and executed by a processing device. As the frames are being executed, a subset of key frames is extracted in accordance with a frame extraction algorithm. The extracting of key frames is terminated prior to the completion of the execution of video frames allowing the user to review the key frames on a display. See Abstract.

Appealed claim 1 defines subject matter for a method for processing video source frames within a display device. As illustrated in Figure 1, the invention employs a video processing system (VPS) 10 as part of the display device 20 that includes a processor 12, a memory structure 14, and a video input device 18, wherein the processor 12 is coupled to the

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memory structure 14 and to the video input device 18 (page 3, lines 10-16). Appealed claim 1, as illustrated in Figure 1, further defines subject matter for inputting video source frames from a video source 30 into the VPS 10 through the video input device 18 (page 4, lines 4-21 of the specification). The executing the video source frames by the processor is taught on page 6, lines 8-15 of the specification. The dynamically and non-contiguously extracting of key frames from the video source frames during the executing is taught on page 5, lines 6-19 and page 6, lines 8-15 of the specification. The extracting implemented in accordance with a frame extraction algorithm that is stored in the memory structure and executed by the processor 12 is taught on page 6, line 16-page 7, line 13 of the specification. Appealed claim 1 further defines subject matter for storing the extracted key frames in a first memory of the memory structure 14 executing is taught on page 7, lines 14-18. The terminating of the extracting of key frames prior to completion of the executing of the video source frames is taught on page 8, lines 8-9 of the specification.

Appealed claim 31 defines subject matter for a display system for processing video frames, including a video frame extraction algorithm (see page 6, line 16-page 7, line 13 of the specification) within the display system that dynamically and non-contiguously extracts key frames from the video source frames during execution of the video source frames (page 5, lines 6-19 and page 6, lines 8-15 of the specification). A processor 12 within the display system executes the video source frames and executes the video frame extraction algorithm (see description on page 6, line 16-page 7, line 13 of the specification). A video input device 18 within the display system receives the video source frames from a video source, wherein the video input device is coupled to the processor (see page 4, lines 4-21 of the specification and Figure 1). Appealed claim 31 further defines subject matter for a memory structure 14 within the display system that is coupled to the processor (see Figure 1), wherein the memory structure stores the video frame extraction algorithm (page 6, line 16-page 7, line 13 of the specification), and wherein a first memory of the memory structure stores the extracted key frames (page 7, lines 14-18) and a terminating mechanism within the display system that terminates extraction of the key frames prior to completion of execution of the video source frames (page 8, lines 8-9 of the specification).

Grounds of Rejection to be Reviewed on Appeal

The Advisory Action dated September 8, 2005 indicated that the rejections to claims 1-60 stand. Claims 1-60 are the appealed claims. Appealed claims 1, 2, 4-10, 14-17, 19-32, 34-40, 44-47 and 49-60 are rejected under the provisions of 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,473,095 issued in the name of Martino et al. (hereinafter referred to as *Martino et al.*) and U.S. Patent No. 6,137,544 issued in the name of Dimitrova et al. (hereinafter referred to as *Dimitrova et al.*). Appealed claims 3, 11-12, 33, and 41-42 are rejected under the provisions of 35 U.S.C. §103(a) as been obvious over *Martino et al.* in view of *Dimitrova et al.* Claims 13 and 43 are rejected under the provisions of 35 §U.S.C. 103(a) as being obvious over *Marino et al.* in view of *Dimitrova et al.* and further in view of U.S. Patent No. 6,219,837 issued to Yeo et al. (hereinafter referred to as *Yeo et al.*).

Argument

I. The rejection of appealed claims 1, 2, 4-10, 14-17, 19-32, 34-40, 44-47 and 49-60 under the provisions of 35 U.S.C. §102(b) as being anticipated via by *Martino et al.* and *Dimitrova et al.*

A. The rejection under 35 U.S.C. S 102(b)

Appealed claims 1, 2, 4-10, 14-17, 19-32, 34-40, 44-47 and 49-60 stand rejected under the provisions of 35 U.S.C. §102(b) as being anticipated by *Marino et al.* (U.S. Patent No. 6,473,095) and *Dimitrova et al.* (U.S. Patent No. 6,137,544). The examiner's position is that *Marino et al.* incorporates by reference the disclosure of *Dimitrova et al.* and that these two references disclose every element defined by appealed claims 1, 2, 4-10, 14-17, 19-32, 34-40, 44-47 and 49-60.

The appellants, respectfully, draw the boards attention to the specific language of 35 U.S.C. §102(b) which states that "A person shall be entitled to a patent unless (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States".

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The MPEP at §2131 states the present Patent Office policy for anticipation as a reference must teach every element of the claims. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

B. The references

Marino et al. (U.S. Patent No. 6,473,095) issued on October 29, 2002. The present application for invention was filed on March 13, 2001. Therefore, *Marino et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). *Dimitrova et al.* (U.S. Patent No. 6,137,544) issued on October 24, 2000. The present application for invention was filed on March 13, 2001. Therefore, *Dimitrova et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). Therefore, neither of the two references (*Marino et al.* and *Dimitrova et al.*) are available as references under the provisions of 35 U.S.C. §102(b). Accordingly, this rejection is without merit and is not substantiated by any rule or statute.

Marino et al. (U.S. Patent No. 6,473,095) identifies video content by identifying key frames within that content. Histograms are formed from the key frames and grouped into families. These family histograms can be used to characterize the video content (see Abstract). *Marino et al.* teach to locate key frames and store key frame numbers. The key frame numbers **must** be retained throughout the procedure taught by *Marino et al.* Identification of key frames can be done in accordance with the procedures taught by *Dimitrova et al.* (see col. 1, lines 50-55). A histogram is formed for each key frame. The histograms give a numerical value for each color and the histograms are used to describe every image by a number of colors. Each histogram must be associated with a frame number (see col. 1, lines 56-65).

Marino et al. teach that the histograms can be used to characterize video content. Histograms are defined for a key frame and key frames are compared with other stored key frames. A threshold is used to determine if histograms are similar (see col. 2, lines 41-45). Histograms are grouped into families using the threshold (see col. 3, lines 6-13). Families can be use to determine program boundaries within the video content (see col. 3, lines 65-67).

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Figure 3 illustrates a program boundary between H_7 and H_6. The appellants, respectfully, point out that program boundary between H_7 and H_6 is mentioned on col. 4 lines 21-22 of *Marino et al.* It should be noted that col. 4 lines 21-22 states that the program boundary is placed between H_7 and H_6 in accordance with box 209 of Figure 2; however, there is no box 209 within Figure 2.

Note that *Marino et al.* do not disclose or suggest dynamically and non-contiguously extracting key frames from the video source frames during the executing. Furthermore, *Marino et al.* do not disclose or suggest storing the extracted key frames in a first memory of the memory structure. Additionally, *Marino et al.* do not disclose or suggest terminating the extracting of key frames prior to the completion of the execution of the video source frames.

Dimitrova et al. (U.S. Patent No. 6,137,544) teach a video indexing system that analyzes the contents of source video. The system of *Dimitrova et al.* detects significant scenes and keyframe filtering filters out the less desirable frames (see Abstract). *Dimitrova et al.* teach that a processor is used to format the video signal into frames (see col. 3, lines 19-22). The processor separates each frame into blocks and transforms each of the blocks using a discrete cosine transform (DCT), performs significant scene detection using and key frame selection, and stores the key frames as a data structures (see col. 3, lines 23-28). Note that col. 3, lines 23-26 of *Dimitrova et al.* do not disclose or suggest that key frames are extracted "non-contiguously". Furthermore, it should be noted that *Dimitrova et al.* do not disclose or suggest that a first memory of the memory structure stores the key frames.

Dimitrova et al. teach that the key frames can be used as a video index. If the recording is not completed at one time, a partially created video index can be stored (see col. 3, lines 39-42). Note that *Dimitrova et al.* do not disclose or suggest any termination of the extracting of key frames prior to completion of executing of the video source frames.

C. The differences between the invention and the references

The appellants, respectfully, point out that neither of the two references (*Marino et al.* and *Dimitrova et al.*) are available as references under the provisions of 35 U.S.C. §102(b). Accordingly, this rejection is without merit and is not substantiated by any rule or statute. Therefore, this rejection should be reversed.

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Appealed claims 1 and 31

Appealed claims 1 and 31 defines subject matter for processing video source frames within a display device, including employing a video processing system (VPS) as part of the display device that includes a processor, a memory structure, and a video input device, wherein the processor is coupled to the memory structure and to the video input device. Appealed claims 1 and 31 further define subject matter for inputting video source frames from a video source into the VPS through the video input device and executing the video source frames by the processor.

Appealed claims 1 and 31 still further define subject matter for dynamically and non-contiguously extracting key frames from the video source frames during the executing, with the extracting being implemented in accordance with a frame extraction algorithm that is stored in the memory structure and executed by the processor. The rejection alleges that col. 3, lines 23-26 of *Dimitrova et al.* disclose that key frames are extracted "non-contiguously". The appellants, respectfully point out that col. 3, lines 23-26 of *Dimitrova et al.* disclose that significant scene detection is performed along with key frame selection, and that key frames are stored as data structures. The entire premise of *Dimitrova et al.* is based on significant scenes and key frames for those scenes. There is no disclosure or suggestion within *Dimitrova et al.* that key frames are extracted "non-contiguously".

The rejection asserts that col. 3, lines 23-28 of *Dimitrova et al.* disclose that a first memory of the memory structure stores the key frames. The appellants assert that col. 3, lines 23-28 of *Dimitrova et al.* disclose key frames are stored in a memory, disk or other storage medium and that *Dimitrova et al.* do not disclose or suggest that a first memory of the memory structure stores the key frames.

The rejection alleges that col. 3, lines 23-28 of *Dimitrova et al.* disclose that the termination of extracting key frames is accomplished prior to the completion of executing of the video source frames. The appellants, respectfully, assert that the statement made by *Dimitrova et al.* that if the recording is not completed at one time, a partially created video index can be stored (see col. 3, lines 39-42) is not a disclosure or a suggestion for any termination of the extracting of key frames prior to completion of executing of the video source frames.

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Appealed claims 2, 4, 5, 32, 34 and 35

Appealed claims 2, 4, 5 32, 34 and 25 define subject matter for the first memory includes a temporary memory. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for storing the extracted key frames in a first memory of the memory structure wherein the first memory includes a temporary memory.

Appealed claims 6 and 36

Appealed claims 6 and 36 define subject matter for recording in the first memory an indication of a video source frame being executed when the extraction of key frames is terminated. The rejection asserts that Figure 1 of *Dimitrova et al.* illustrates the recording of key frame data to tape or memory. The appellants, respectfully, point out that that appealed claims 6 and 36 define subject matter for recording in the first memory an indication of a video source frame being executed when the extraction of key frames is terminated. Therefore, this rejection does not address the subject matter of appealed claims 6 and 36. This rejection does not address recording in the first memory. This rejection does not address that which is being recorded is an indication of a video source frame being executed when the extraction of key frames is terminated. There is no disclosure or suggestion within *Dimitrova et al.* for recording in the first memory an indication of a video source frame being executed when the extraction of key frames is terminated.

Appealed claims 7 and 37

Appealed claims 7 and 37 defines subject matter for wherein recording in the first memory comprises generating a special key frame that includes the indication, and further comprising appending the special key frame to the extracted key frames in the first memory. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for the first memory comprises generating a special key frame that includes the indication, and further comprising appending the special key frame to the extracted key frames in the first memory.

Appealed claims 9 and 39

Appealed claims 9and 39 defines subject matter for the terminating being triggered by action of a user of the VPS, wherein the action includes a manipulating by the user of a user input device. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for the terminating being triggered by action of a user of the VPS, wherein the action includes a manipulating by the user of a user input device.

Appealed claims 10 and 40

Appealed claims 10, 40 define the subject matter of appealed claim 1 and appealed claim 31 and additionally define the subject matter for terminating the extracting at a time when a predetermined condition has occurred. The Examiner's position is that the statement on col. 3, lines 40-43 of *Dimitrova et al.* that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions" disclose terminating the processing of the video source frames when a predetermined condition has occurred. The appellants, respectfully, assert that this assertion contained in the rejection does not address the predetermined condition. Appealed claims 10 and 40 define subject matter for a predetermined condition for terminating the extraction of key frames prior to completion of executing the video source frames. The states that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions" within *Dimitrova et al.* does not disclose or suggest any predetermined condition for terminating the extraction of key frames prior to completion of executing the video source frames. The appellants, respectfully, point out that the terminating of the extraction of key frames is defined to occur prior to the completion of the executing of the video source frames. The statement that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions" within *Dimitrova et al.* does not disclose or suggest terminating the extraction of key frames prior to completion of executing the video source frames.

Appealed claims 14 and 44

Appealed claims 14 and 44 define subject matter for reviewing the key frames by a user of the VPS, wherein the reviewing occurs through an output display that is coupled to the processor. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for reviewing the key frames by a user of the VPS, wherein the reviewing occurs through an output display that is coupled to the processor.

Appealed claims 16-18 and 46-48

Appealed claims 16-18 and 46-48 define subject matter for reviewing the key frames by a user of the VPS, wherein the reviewing occurs prior to completion of executing the video source frames, wherein the reviewing occurs at or after the terminating, wherein the reviewing occurs prior to the terminating. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for reviewing the key frames by a user of the VPS, wherein the reviewing occurs prior to completion of executing the video source frames, wherein the reviewing occurs at or after the terminating, wherein the reviewing occurs prior to the terminating.

Appealed claims 19 and 49

Appealed claims 19and 49 define subject matter for reviewing the key frames by a user of the VPS, wherein the reviewing occurs at or after completion of executing the video source frames. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for reviewing the key frames by a user of the VPS, wherein the reviewing occurs at or after completion of executing the video source frames.

Appealed claims 20 and 50

Appealed claims 20 and 50 define subject matter for reviewing the key frames by a user of the VPS, wherein at or after completion of the reviewing, erasing the key frames from the first memory. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for reviewing the key frames by a user of the VPS, wherein at or after completion of the reviewing, erasing the key frames from the first memory.

Appealed claims 23, 24, 53 and 54

Appealed claims 23, 24, 53 and 54 define subject matter for reviewing the key frames by a user of the VPS, wherein the erasing occurs at a time when a predetermined condition has occurred and the predetermined condition includes completion of the executing of the video source frames. There is no disclosure or suggestion within *Dimitrova et al.* or *Marino et al.* for reviewing the key frames by a user of the VPS, wherein the erasing occurs at a time when a predetermined condition has occurred and the predetermined condition includes completion of the executing of the video source frames.

II. The rejection of appealed claims 3, 11-12, 33, and 41-42 under the provisions of 35 U.S.C. §103(a) as been obvious over *Martino et al.* in view of *Dimitrova et al.*

A. The rejection under 35 U.S.C. S 103(a)

Appealed claims 3, 11-12, 33, and 41-42 are rejected under the provisions of 35 U.S.C. §103(a) as been obvious over *Martino et al.* in view of *Dimitrova et al.*

The MPEP at §2143 states the basic requirements of a *Prima Facie* case of obviousness.

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

The appellants draw the Board's attention to the specific language of 35 U.S.C. 103(c) related to conditions for patentability and non-obvious subject matter.

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35 U.S.C. 103(c)(1) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of **section 102** of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

B. The references

Marino et al. (U.S. Patent No. 6,473,095) issued on October 29, 2002. The present application for invention was filed on March 13, 2001. Therefore, *Marino et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). *Dimitrova et al.* (U.S. Patent No. 6,137,544) issued on October 24, 2000. The present application for invention was filed on March 13, 2001. Therefore, *Dimitrova et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). Therefore, neither of the two references (*Marino et al.* and *Dimitrova et al.*) are available as references under the provisions of 35 U.S.C. §102(b).

The foregoing discussion regarding the rejection under the provisions of 35 U.S.C. §102(b) discussed that *Dimitrova et al.* do not anticipate the subject matter defined by the independent claims. As discussed in the appeal from the rejection under the provisions of 35 U.S.C. §102(b), *Dimitrova et al.* do not qualify as prior art under the provisions of 35 U.S.C. §102(b). Furthermore, *Dimitrova et al.* can not be used as a reference under the provisions 35 U.S.C. 103(a) because under the provisions of 35 U.S.C. 103(c), subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

The appellants, respectfully, draw the Board's attention to the last paragraph of the Advisory Action dated September 8, 2005. The Examiner alleges that the "applicant's representative has stated that the application and the reference were commonly owned at the time of filing, which is not sufficient to disqualify the reference under 35 U.S.C. §103." The Examiner's rationale is based upon the Examiner's interpretation of MPEP§706.02(l) which states that "the applicant's representative's statement is not sufficient according to

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MPEP§706.02(l), which states that the application and the reference must be owned by, or subject to an obligation of assignment to, the same person at the time of the invention was made." The appellants, respectfully, assert that the statement made in response filed August 17, 2005 to the Final Office Action dated June 15, 2005 that "Marino et al. was also commonly owned with the present application for invention at the time of filing for the present application for invention" is sufficient to disqualify *Marino et al.* as a reference for the following reason. *Marino et al.* do not qualify as a reference under the provisions of 35 U.S.C. §102(a) or 35 U.S.C. §102(b). In fact *Marino et al.* do not qualify as a reference under any of the provisions of 35 U.S.C. §102 because *Marino et al.* was still pending and had not been published. The appellants, respectfully, assert that the present application for invention and the reference, *Marino et al.*, were owned by, or subject to an obligation of assignment to, the same person at the time of the present invention was made. A copy of the of the assignment of the present application for invention to the same assignee for that of *Marino et al.* is included in Appendix II.

The appellants, respectfully, assert that the present application for invention and the reference, *Dimitrova et al.*, were also owned by, or subject to an obligation of assignment to, the same person at the time of the present invention was made. A copy of the of the assignment of the present application for invention to the same assignee for that of *Dimitrova et al.* is included in Appendix II.

Marino et al. (U.S. Patent No. 6,473,095) identifies video content by identifying key frames within that content. Histograms are formed from the key frames and grouped into families. These family histograms can be used to characterize the video content (see Abstract). *Marino et al.* teach to locate key frames and store key frame numbers. The key frame numbers **must** be retained throughout the procedure taught by *Marino et al.* Identification of key frames can be done in accordance with the procedures taught by *Dimitrova et al.* (see col. 1, lines 50-55). A histogram is formed for each key frame. The histograms give a numerical value for each color and the histograms are used to describe every image by a number of colors. Each histogram must be associated with a frame number (see col. 1, lines 56-65).

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Marino et al. teach that the histograms can be used to characterize video content. Histograms are defined for a key frame and key frames are compared with other stored key frames. A threshold is used to determine if histograms are similar (see col. 2, lines 41-45). Histograms are grouped into families using the threshold (see col. 3, lines 6-13). Families can be use to determine program boundaries within the video content (see col. 3, lines 65-67). Figure 3 illustrates a program boundary between H_7 and H_6. The appellants, respectfully, point out that program boundary between H_7 and H_6 is mentioned on col. 4 lines 21-22 of *Marino et al.* It should be noted that col. 4 lines 21-22 states that the program boundary is placed between H_7 and H_6 in accordance with box 209 of Figure 2; however, there is no box 209 within Figure 2.

Note that *Marino et al.* do not disclose or suggest dynamically and non-contiguously extracting key frames from the video source frames during the executing. Furthermore, *Marino et al.* do not disclose or suggest storing the extracted key frames in a first memory of the memory structure. Additionally, *Marino et al.* do not disclose or suggest terminating the extracting of key frames prior to the completion of the execution of the video source frames.

Dimitrova et al. (U.S. Patent No. 6,137,544) teach a video indexing system that analyzes the contents of source video. The system of *Dimitrova et al.* detects significant scenes and keyframe filtering filters out the less desirable frames (see Abstract). *Dimitrova et al.* teach that a processor is used to format the video signal into frames (see col. 3, lines 19-22). The processor separates each frame into blocks and transforms each of the blocks using a discrete cosine transform (DCT), performs significant scene detection using and key frame selection, and stores the key frames as a data structures (see col. 3, lines 23-28). Note that col. 3, lines 23-26 of *Dimitrova et al.* do not disclose or suggest that key frames are extracted "non-contiguously". Furthermore, it should be noted that *Dimitrova et al.* do not disclose or suggest that a first memory of the memory structure stores the key frames.

Dimitrova et al. teach that the key frames can be used as a video index. If the recording is not completed at one time, a partially created video index can be stored (see col. 3, lines 39-42). Note that *Dimitrova et al.* do not disclose or suggest any termination of the extracting of key frames prior to completion of executing of the video source frames.

C. The differences between the invention and the references

Appealed claims 3 and 33

Appealed claims 3 and 33, respectively define the subject matter of appealed claims 2 and 32 for the first memory includes a temporary memory, wherein the temporary memory includes a random access memory (RAM). The first memory of the memory structure is defined to store the extracted key frames. There is no disclosure or suggestion within *Marino et al.* or *Dimitrova et al.* for a first memory as defined by appealed claims 3 and 33 that is a temporary memory used to store the extracted key frames.

Appealed claims 11, 12, 41 and 42

Appealed claims 11, 12 define the subject matter of appealed claims 10 for terminating the extracting at a time when a predetermined condition has occurred and appealed claims 41, 42 define the subject matter of appealed claim 40 for terminating the extracting at a time when a predetermined condition has occurred. The Examiner's position is that the statement on col. 3, lines 40-43 of *Dimitrova et al.* that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions" disclose terminating the processing of the video source frames when a predetermined condition has occurred. The appellants, respectfully, assert that this assertion contained in the rejection does not address the predetermined condition. Appealed claims 10 and 40 define subject matter for a predetermined condition for terminating the extraction of key frames prior to completion of executing the video source frames. The states that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions" within *Dimitrova et al.* does not disclose or suggest any predetermined condition for terminating the extraction of key frames prior to completion of executing the video source frames. The appellants, respectfully, point out that the terminating of the extraction of key frames is defined to occur prior to the completion of the executing of the video source frames. The statement that "if the tape, or file, is not completely recorded on at one time, a partially created video index could be saved on the tape, file, etc. or could be saved in a tape memory for later additions"

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within *Dimitrova et al.* does not disclose or suggest terminating the extraction of key frames prior to completion of executing the video source frames.

Appealed claims 11 and 41 define the subject matter for the predetermined condition to include execution of a predetermined fraction or percentage of the video source frames. Appealed claims 12 and 42 define wherein the predetermined condition includes execution of a predetermined number of video source frames. The Examiner has taken Office Notice of the subject matter defined by appealed claims 11, 12, 41 and 42. To substantiate this Office Notice, the Examiner cites U.S. Patent No. 6,567,985 issued in the name of Ishii (hereinafter referred to as *Ishii*). The appellant, respectfully, assert that *Ishii* does or disclose or suggest using either a predetermined fraction or percentage of the video source frames or a predetermined number of video source frames to terminate the processing of the video source frames.

III. The rejection of appealed claims 13 and 43 under the provisions of 35 U.S.C. §103(a) as been obvious over *Martino et al.* in view of *Dimitrova et al.* and further in view of *Yeo et al.*

A. The rejection under 35 U.S.C. S 103(a)

Appealed claims 13 and 43 are rejected under the provisions of 35 U.S.C. §103(a) as been obvious over *Martino et al.* in view of *Dimitrova et al.* and further in view of *Yeo et al.* (U.S. Patent No. 6,219,837)

The MPEP at §2143 states the basic requirements of a *Prima Facie* case of obviousness. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

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The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

The appellants draw the Board's attention to the specific language of 35 U.S.C. 103(c) related to conditions for patentability and non-obvious subject matter.

35 U.S.C. 103(c)(1) Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of **section 102** of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

B. The references

Marino et al. (U.S. Patent No. 6,473,095) issued on October 29, 2002. The present application for invention was filed on March 13, 2001. Therefore, *Marino et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). *Dimitrova et al.* (U.S. Patent No. 6,137,544) issued on October 24, 2000. The present application for invention was filed on March 13, 2001. Therefore, *Dimitrova et al.* is not available as a reference under the provisions of 35 U.S.C. §102(b). Therefore, neither of the two references (*Marino et al.* and *Dimitrova et al.*) are available as references under the provisions of 35 U.S.C. §102(b).

The foregoing discussion regarding the rejection under the provisions of 35 U.S.C. §102(b) discussed that *Dimitrova et al.* do not anticipate the subject matter defined by the independent claims. As discussed in the appeal from the rejection under the provisions of 35 U.S.C. §102(b), *Dimitrova et al.* do not qualify as prior art under the provisions of 35 U.S.C. §102(b). Furthermore, *Dimitrova et al.* can not be used as a reference under the provisions 35 U.S.C. 103(a) because under the provisions of 35 U.S.C. 103(c), subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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The appellants, respectfully, draw the Board's attention to the last paragraph of the Advisory Action dated September 8, 2005. The Examiner alleges that the "applicant's representative has stated that the application and the reference were commonly owned at the time of filing, which is not sufficient to disqualify the reference under 35 U.S.C. §103." The Examiner's rationale is based upon the Examiner's interpretation of MPEP§706.02(l) which states that "the applicant's representative's statement is not sufficient according to MPEP§706.02(l), which states that the application and the reference must be owned by, or subject to an obligation of assignment to, the same person at the time of the invention was made." The appellants, respectfully, assert that the statement made in response filed August 17, 2005 to the Final Office Action dated June 15, 2005 that "Marino et al. was also commonly owned with the present application for invention at the time of filing for the present application for invention" is sufficient to disqualify Marino et al. as a reference for the following reason. Marino et al. do not qualify as a reference under the provisions of 35 U.S.C. §102(a) or 35 U.S.C. §102(b). In fact Marino et al. do not qualify as a reference under any of the provisions of 35 U.S.C. §102 because Marino et al. was still pending and had not been published. The appellants, respectfully, assert that the present application for invention and the reference, Marino et al., were owned by, or subject to an obligation of assignment to, the same person at the time of the present invention was made. A copy of the of the assignment of the present application for invention to the same assignee for that of Marino et al. is included in Appendix II.

The appellants, respectfully, assert that the present application for invention and the reference, Dimitrova et al., were also owned by, or subject to an obligation of assignment to, the same person at the time of the present invention was made. A copy of the of the assignment of the present application for invention to the same assignee for that of Dimitrova et al. is included in Appendix II.

Marino et al. (U.S. Patent No. 6,473,095) identifies video content by identifying key frames within that content. Histograms are formed from the key frames and grouped into families. These family histograms can be used to characterize the video content (see Abstract). Marino et al. teach to locate key frames and store key frame numbers. The key frame numbers

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must be retained throughout the procedure taught by *Marino et al.* Identification of key frames can be done in accordance with the procedures taught by *Dimitrova et al.* (see col. 1, lines 50-55). A histogram is formed for each key frame. The histograms give a numerical value for each color and the histograms are used to describe every image by a number of colors. Each histogram must be associated with a frame number (see col. 1, lines 56-65).

Marino et al. teach that the histograms can be used to characterize video content. Histograms are defined for a key frame and key frames are compared with other stored key frames. A threshold is used to determine if histograms are similar (see col. 2, lines 41-45). Histograms are grouped into families using the threshold (see col. 3, lines 6-13). Families can be use to determine program boundaries within the video content (see col. 3, lines 65-67). Figure 3 illustrates a program boundary between H_7 and H_6. The appellants, respectfully, point out that program boundary between H_7 and H_6 is mentioned on col. 4 lines 21-22 of *Marino et al.* It should be noted that col. 4 lines 21-22 states that the program boundary is placed between H_7 and H_6 in accordance with box 209 of Figure 2; however, there is no box 209 within Figure 2.

Note that *Marino et al.* do not disclose or suggest dynamically and non-contiguously extracting key frames from the video source frames during the executing. Furthermore, *Marino et al.* do not disclose or suggest storing the extracted key frames in a first memory of the memory structure. Additionally, *Marino et al.* do not disclose or suggest terminating the extracting of key frames prior to the completion of the execution of the video source frames.

Dimitrova et al. (U.S. Patent No. 6,137,544) teach a video indexing system that analyzes the contents of source video. The system of *Dimitrova et al.* detects significant scenes and keyframe filtering filters out the less desirable frames (see Abstract). *Dimitrova et al.* teach that a processor is used to format the video signal into frames (see col. 3, lines 19-22). The processor separates each frame into blocks and transforms each of the blocks using a discrete cosine transform (DCT), performs significant scene detection using and key frame selection, and stores the key frames as a data structures (see col. 3, lines 23-28). Note that col. 3, lines 23-26 of *Dimitrova et al.* do not disclose or suggest that key frames are extracted "non-contiguously". Furthermore, it should be noted that *Dimitrova et al.* do not disclose or suggest that a first memory of the memory structure stores the key frames.

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Dimitrova et al. teach that the key frames can be used as a video index. If the recording is not completed at one time, a partially created video index can be stored (see col. 3, lines 39-42). Note that *Dimitrova et al.* do not disclose or suggest any termination of the extracting of key frames prior to completion of executing of the video source frames.

Yeo et al. teach a server 401 that is remote from the actual computer, television or other display device that will ultimately display video signal. The processing of the video signal and embedding of summary frames within the video is taught by *Yeo et al.* takes place within the server 401. The video signal 406 is then transmitted to the communication channel 402. The communication Channel 402 then transmits the video signal 406 to computational devices or set-top boxes. *Yeo et al.* relates to the embedding of summary frames that takes place at remote server prior transmission via a communication channel. *Yeo et al.* do not perform video processing as part of a display system or a display device. The appellants, respectfully, assert that the server 401 and is taught by *Yeo et al.* can not reasonably be interpreted as a display device or a display system, even using the most broad definition of these terms.

## C. The differences between the invention and the references

Appealed claims 13 and 43

Appealed claims 13 and 43 define subject matter for wherein the predetermined condition includes an elapsing of predetermined time duration from initiation of executing the video source frames. *Martino et al.*, *Dimitrova et al.* and *Yeo et al.* taken alone or in combination do not disclose or suggest the predetermined condition includes an elapsing of predetermined time duration from initiation of executing the video source frames.

Conclusion

In summary, the examiner's rejections of the claims are believed to be in error for the reasons explained above. The rejections of each of claims 1-60 should be reversed.

Respectfully submitted,
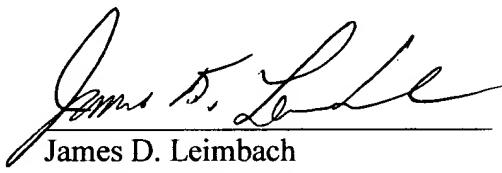
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APPENDIX 1. Claims on Appeal

1. A method for processing video source frames within a display device, comprising:

     employing a video processing system (VPS) as part of the display device that includes a processor, a memory structure, and a video input device, wherein the processor is coupled to the memory structure and to the video input device;

     inputting video source frames from a video source into the VPS through the video input device;

     executing the video source frames, by the processor;

     dynamically and non-contiguously extracting key frames from the video source frames during the executing, said extracting implemented in accordance with a frame extraction algorithm that is stored in the memory structure and executed by the processor;

     storing the extracted key frames in a first memory of the memory structure; and

     terminating extracting key frames prior to completion of said executing of the video source frames.

2. The method of Claim 1, wherein the first memory includes a temporary memory.

3. The method of Claim 2, wherein the temporary memory includes a random access memory (RAM).

4. The method of Claim 1, wherein the first memory includes a permanent memory.

5. The method of Claim 4, wherein the permanent memory includes hard disk memory.

6. The method of Claim 1, further comprising recording in the first memory an indication of a video source frame being executed when the terminating occurred.

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7. The method of Claim 6, wherein recording in the first memory comprises generating a special key frame that includes the indication, and further comprising appending the special key frame to the extracted key frames in the first memory.

8. The method of Claim 1, wherein the terminating is triggered by action of a user of the VPS.

9. The method of Claim 8, wherein the action includes a manipulating by the user of a user input device.

10. The method of Claim 1, wherein the terminating occurs at a time when a predetermined condition has occurred.

11. The method of Claim 10, wherein the predetermined condition includes execution of a predetermined fraction or percentage of the video source frames.

12. The method of Claim 10, wherein the predetermined condition includes execution of a predetermined number of video source frames.

13. The method of Claim 10, wherein the predetermined condition includes an elapsing of predetermined time duration from initiation of executing the video source frames.

14. The method of Claim 1, further comprising reviewing the key frames by a user of the VPS, wherein the reviewing occurs through an output display that is coupled to the processor.

15. The method of Claim 14, wherein the output display includes a television screen or a computer monitor.

16. The method of Claim 14, wherein the reviewing occurs prior to completion of executing the video source frames.

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17. The method of Claim 16, wherein the reviewing occurs at or after the terminating.

18. The method of Claim 16, wherein the reviewing occurs prior to the terminating.

19. The method of Claim 14, wherein the reviewing occurs at or after completion of executing the video source frames.

20. The method of Claim 14, further comprising at or after completion of the reviewing, erasing the key frames from the first memory.

21. The method of Claim 20, wherein the erasing is triggered by action of the user.

22. The method of Claim 21, wherein the action includes a manipulating by the user of a user input device.

23. The method of Claim 20, wherein the erasing occurs at a time when a predetermined condition has occurred.

24. The method of Claim 23, wherein the predetermined condition includes completion of the executing of the video source frames.

25. The method of Claim 23, wherein the predetermined condition includes an elapse of a predetermined amount of time following the reviewing.

26. The method of Claim 14, further comprising after completion of the reviewing, copying the key frames from the first memory to a second memory of the memory structure, wherein the second memory includes a removable memory.

27. The method of Claim 26, further comprising after completion of the copying, erasing the key frames from the first memory.

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28. The method of Claim 1, wherein the video frame extraction algorithm comprises a content-based method of video frame extraction.

29. The method of Claim 28, wherein the content-based method includes a keyframe scene detection method selected from the group consisting of a Method One keyframe scene detection method, a Method Two keyframe scene detection method, a Method Three keyframe scene detection method, and a Method Four keyframe scene detection method.

30. The method of Claim 1, wherein the video frame extraction algorithm comprises a content-independent method of video frame extraction.

31. A display system for processing video frames, comprising:

a video frame extraction algorithm within the display system that dynamically and non-contiguously extracts key frames from the video source frames during execution of the video source frames;

a processor within the display system that executes the video source frames and executes the video frame extraction algorithm;

a video input device within the display system that receives the video source frames from a video source, wherein the video input device is coupled to the processor;

a memory structure within the display system that is coupled to the processor, wherein the memory structure stores the video frame extraction algorithm, and wherein a first memory of the memory structure stores the extracted key frames; and

a terminating mechanism within the display system that terminates extraction of the key frames prior to completion of execution of the video source frames.

32. The system of Claim 31, wherein the first memory includes a temporary memory.

33. The system of Claim 32, wherein the temporary memory includes a random access memory (RAM).

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34. The system of Claim 31, wherein the first memory includes a permanent memory.

35. The system of Claim 34, wherein the permanent memory includes hard disk memory.

36. The system of Claim 31, further comprising a recording mechanism that records in the first memory an indication of a video source frame being executed when the extraction of key frames is terminated.

37. The system of Claim 36, wherein the receiving mechanism records the indication in a special key frame that is appended to the extracted key frames.

38. The system of Claim 31, wherein the terminating mechanism includes a user-controlled device.

39. The system of Claim 38, wherein the user-controlled device includes a user input device that is coupled to the processor.

40. The system of Claim 31, wherein the terminating mechanism terminates the extracting at a time when a predetermined condition has occurred.

41. The system of Claim 40, wherein the predetermined condition includes execution of a predetermined fraction or percentage of the video source frames.

42. The system of Claim 40, wherein the predetermined condition includes execution of a predetermined number of video source frames.

43. The system of Claim 40, wherein the predetermined condition includes an elapsing of predetermined time duration from initiation of the execution of the video source frames.

44. The system of Claim 31, further comprising an output display through which a user may review the extracted key frames, wherein the output display is coupled to the processor.

45. The system of Claim 44, wherein the output display includes a television screen or a computer monitor.

46. The system of Claim 44, wherein the system permits review of the key frames prior to completion of execution of the video source frames.

47. The system of Claim 46, wherein the system permits review of the key frames when or after the terminating mechanism terminates extracting the key frames.

48. The system of Claim 46, wherein the system permits review of the key frames before the terminating mechanism terminates extracting the key frames.

49. The system of Claim 44, wherein the system permits receive of the key frames upon or after completion of execution of the video source frames.

50. The system of Claim 44, further comprising ~~and~~ an erasing mechanism that erases the key frames from the first memory at or after completion of review of the key frames by the user.

51. The system of Claim 50, wherein the erasing mechanism is triggered by action of the user.

52. The system of Claim 51, further comprising a user input device, wherein the action includes the user manipulation of the user input device.

53. The system of Claim 50, wherein the erasing mechanism is triggered when a predetermined condition has occurred.

54. The system of Claim 53, wherein the predetermined condition includes completion of execution of the video source frames.

55. The system of Claim 53, wherein the predetermined condition includes an elapse of a predetermined amount of time following the review of the key frames.

56. The system of Claim 31, further comprising a second memory of the memory structure and a transferring mechanism, wherein the transferring mechanism transfers the key frames from the first memory to the second memory, and wherein the second memory includes a removable memory.

57. The system of Claim 56, further comprising an erasing mechanism that erases the key frames from the first memory after the transferring mechanism completes transfer of the keyframes from the first memory to the second memory.

58. The system of Claim 31, wherein the video frame extraction algorithm comprises a content-based method of video frame extraction.

59. The system of Claim 58, wherein the content-based method includes a keyframe scene detection method selected from the group consisting of a Method One keyframe scene detection method, a Method Two keyframe scene detection method, a Method Three keyframe scene detection method, and a Method Four keyframe scene detection method.

60. The system of Claim 31, wherein the video frame extraction algorithm comprises a content-independent method of video frame extraction.

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          as described in the U.S. patent application

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     [   ] filed in the United States Patent and Trademark Office
          on _____ as Serial Number _____,

      (2) the foregoing application and all other U.S. and foreign patent applications based thereon, including divisions, continuations, reissues, and extensions, and

      (3) all patents granted on these applications.

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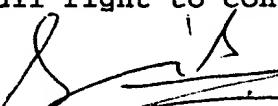
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